

Amendments to the Specification:

On Page 31, please replace the paragraph beginning on line 3 and ending on line 20 with the following amended paragraph:

Diaphysyl shafts (total of approximate 520 grams wet weight of bone material) from the long bones and ribs of a given donor (human donor information is confidential) were mechanically debrided (as disclosed in co-pending U.S. Patent Application number 10/108,[1]804, incorporated by reference herein) to remove associated periosteal tissue and bone marrow in the intramedullary canal. The shafts and ribs were then cut into linear pieces with widths, thickness, and lengths approximating <45mm x <45mm x <6cm using a bone saw. A cut piece of cortical bone (wet weight 48 grams) was then loaded individually into the load chute of the cutting device and the clamping cylinder was locked into the closed position. The cutting slide having the cutting blade disposed therein was activated and cut fiber bone was collected into the receiving bin. A total of 42 grams of fiber bone were accumulated during the 60 cutting cycles (cutting cycle equals one back/forthpass of the cutter/cutter slide across the bone surface) for approximately 70 seconds with additional bone materials being added to the feeder chute at each cutting event. After each cutting event, another cortical shaft and/or cortical pieces were added and another cutting event was initiated. The amount of the bone materials loaded into the chute for each cutting event varied. However, the number of cutting events performed were sufficient to accumulate a bulk fiber mass of approximately 490 grams (wet weight).

On Pages 31 and 32, please replace the paragraph beginning on line 21 of Page 31 and ending on line 7 of Page 32 with the following amended paragraph:

The cut fiber bone was stored in a sterile container in the freezer (minus 80° C) for three days.

Prior to demineralization, the cut fiber bone was cleaned with LifeNet's patented ALLOWASH™ technology. For demineralization, a total of 463 grams of bone materials were added to the Pulsatile Acid Demineralization (PAD) chamber (as disclosed in co-pending U.S. Patent Application no. 09/655,[37]711 herein incorporated by reference) and demineralized to 2.5 % residual calcium using 2 cycles of 0.5 N HCl and acid volumes of 4.0 liters/cycle and 3.0 liters/cycle, 1 cycle of ultrapure water of 3.0 liters/cycle, and 2 cycles ultrapure water plus buffer of 3.0 liters/cycle to terminate the demineralization process. The bone fibers were finally washed in 3.0 liters of ultrapure water and stored frozen at minus 80 ° C in a sterile container.